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HERMESIA LEFÈVRE, A RESURRECTED GENUS OF NEOTROPICAL EUMOLPINAE (COLEOPTERA: CHRYSOMELIDAE)

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Abstract.—*Hermesia* Lefèvre is reinstated as a valid genus name in the Neotropical Eumolpinae. The genus is redefined to include the species *H. aurata* (Olivier), *H. cyanea* Bowditch, and *H. inermis* Bowditch. Characters for separation of *Hermesia* and *Hylax* Lefèvre, and the disposition of other species formerly placed in *Hermesia* are given. Taxonomic characters found in the male endophallus are discussed and illustrated.

Key Words: Chrysomelidae, Eumolpinae, *Hermesia, Hylax,* ovipositor, endophallus

In the course of making an inventory of the Eumolpinae of Costa Rica and developing a key to Central American genera of this taxonomically confusing subfamily, I repeatedly encounter instances where incorrect application of genus names causes confusion and needlessly complicates recognizing phylogenetically meaningful groups of species. In the present paper I discuss the correct placement of a small but showy group of eumolpines that are widespread in Neotropical forests and are frequently found in general collections of Chrysomelidae.

Lefèvre (1877) established the genus *Hermesia* to include *Colaspis aurata* Olivier and two new species, *H. purpurea* and *H. fulgidicollis,* later adding *H. janthina* Lefèvre (1885). By the time of Blackwelder's checklist (1946), 12 additional species had been described by Bowditch (1921), Jacoby (1882, 1900a, b, 1904), and Weise (1921). In his catalogue of the Neotropical Eumolpinae, Bechyné (1953) synonymized *Hermesia* with *Hylax* Lefèvre (1884) and transferred *Hermesia aurata* (Ol.) and *Hermesia cyanea* Bowditch to this genus. The remaining species of Lefèvre's *Hermesia* were transferred to other genera (see second list below). Later, Bechyné (1954) stated that although the modified hind tibiae of the male *H. auratus* (Fig. 1) were not spinose as in most *Hylax* (Fig. 2), *H. auratus* was not otherwise separable from the rest of *Hylax.* Still later, Bechyné (1955) reiterated his transfer of *H. auratus,* placed *Rhabdopterus violaceus* Jacoby as a subspecies of *Hylax auratus,* and renamed *Hylax violaceus* (Jacoby) as *Hylax pseudoviolaceus.*

While working with Costa Rican Eumolpinae I found many specimens of a species lacking any modification of the hind tibiae of the male but agreeing closely with *Hylax auratus* in all other respects. This form proved to be *Hermesia inermis* Bowditch listed under *Parachalcoplacis* by Bechyné (1953) in his catalog. On further study, it became clear that *H. auratus* and *P. inermis* are congeneric, that both show substantial differences in structure of the pronotum from all *Hylax* that I have been able to examine, and that neither species is congeneric with *Chalcoplacis* (= *Parachalcoplacis* as synonomized by Monrós and Bechyné 1956). I have examined a long series of *P. inermis* in the collections of the National Biodiversity Institute of Costa Rica, identified specimens of *Hermesia* and *Hylax* in the Bowditch Collection of the Museum of

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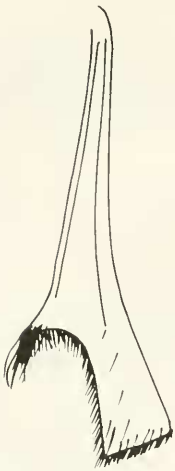

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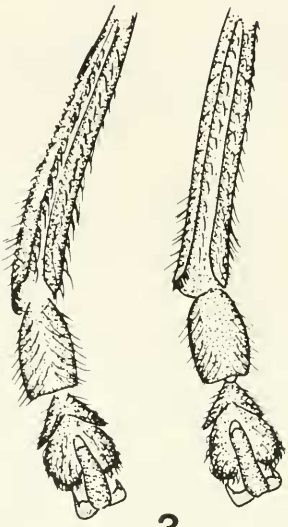

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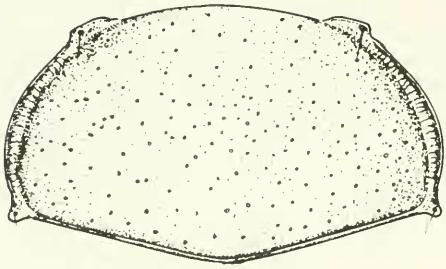

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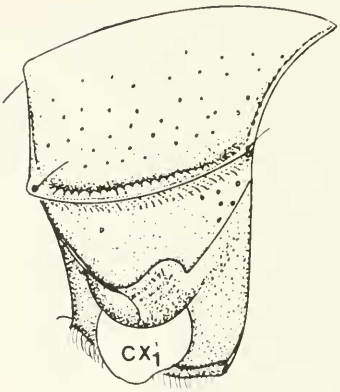

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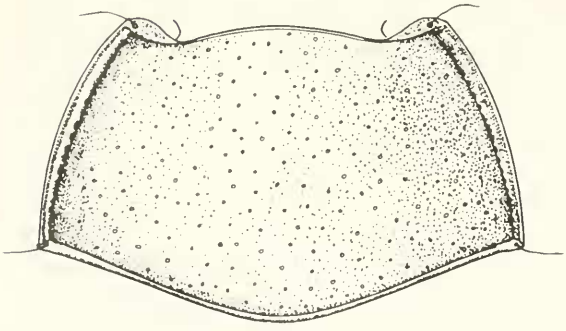

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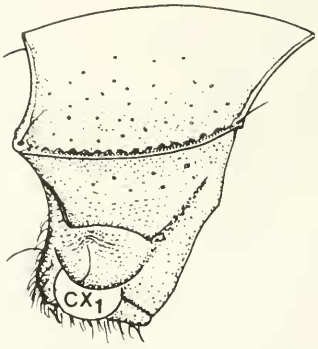

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Comparative Zoology, Harvard University, and general collections of Eumolpinae at Cornell University and the California Department of Food and Agriculture. As a result of these studies, I regard *Hermesia* as a valid genus, based on external characters and supported by internal characters of the male endophallus and the female ovipositor.

Endophallic structures used in this study

Terminology used for structures of internal female genitalia follow Askevold and Flowers (1994). There is no accepted terminology for the structures of the male endophallus of Eumolpinae. Askevold (1988, 1990, 1991) has studied the Donaciinae and identified a system of sclerites of the male endophallus. Of these, the endophallic lateral digits (ELD), the basal supporting block (BSB), the median ejaculatory guide (MEG), and the basal setal brush (bb) appear to be analogous to structures visible in the endophalli of a number of Eumolpinae I have studied. I am provisionally adopting Askevold's terminology in this paper to refer to these structures, which are analogous in position and appearance to those illustrated for the Donaciinae. The most important difference between the Donaciinae and the Eumolpinae is that in the Donaciinae the endophallus is relatively short with the ELD's in the apical position. In most Neotropical genera of Eumolpinae so far examined, the endophallus is a very long tube that, when retracted, is doubled back upon itself and lies within the basal hood. There appear to be two groups of sclerites that deploy as the endophallus is everted. The apical lateral digits (ELD in Figs. 8–17), analogous to the endophallic lateral digits of Askevold, are associated with complex basal supporting block (BSB) from which a long flexible sclerite (MEG) protrudes forward; the ELD's are thus subapical and the endophallus continues distally beyond them, sometimes for a considerable distance. At the base of the endophallus there are additional sclerites, presumably derived from the dorsal and basolateral sac supporting sclerites of Askevold. Among these is another pair of less sclerotized but movable basal lateral digits (BLD) which apparently have no homolog in Donaciinae (Askevold, pers. com.). Below the two sets of digits, there is often a field of fine setae on the underside of the endophallus (bb).

The main difficulty in everting eumolpine endophalli is trying to pull this compact mass of sclerites, which is under tension when retracted, out through the delicate membraneous tube, and work it free without tearing the membrane. Failures are frequent. Fig. 8 shows the endophallus of *H. aurata* after an unusually successful preparation in which both sets of lateral digits and the MEG are everted. However, even here over half the endophallus is still retracted. The ELD's are shown in apical view in Figs. 10 and 14. Basal digits (BLD) are blunt membraneous lobes with sclerotized distal surfaces (Fig. 13). Distad of the basal block, the endophallus is a simple membranous tube with a small internal apical sclerite (Figs. 11, 16) that may be a guide for the flagellum (not illustrated).

Hermesia Lefèvre 1877: clxxviii resurrected name

Type species: Colaspis aurata Olivier 1808, designated by Bechyné (1950a).

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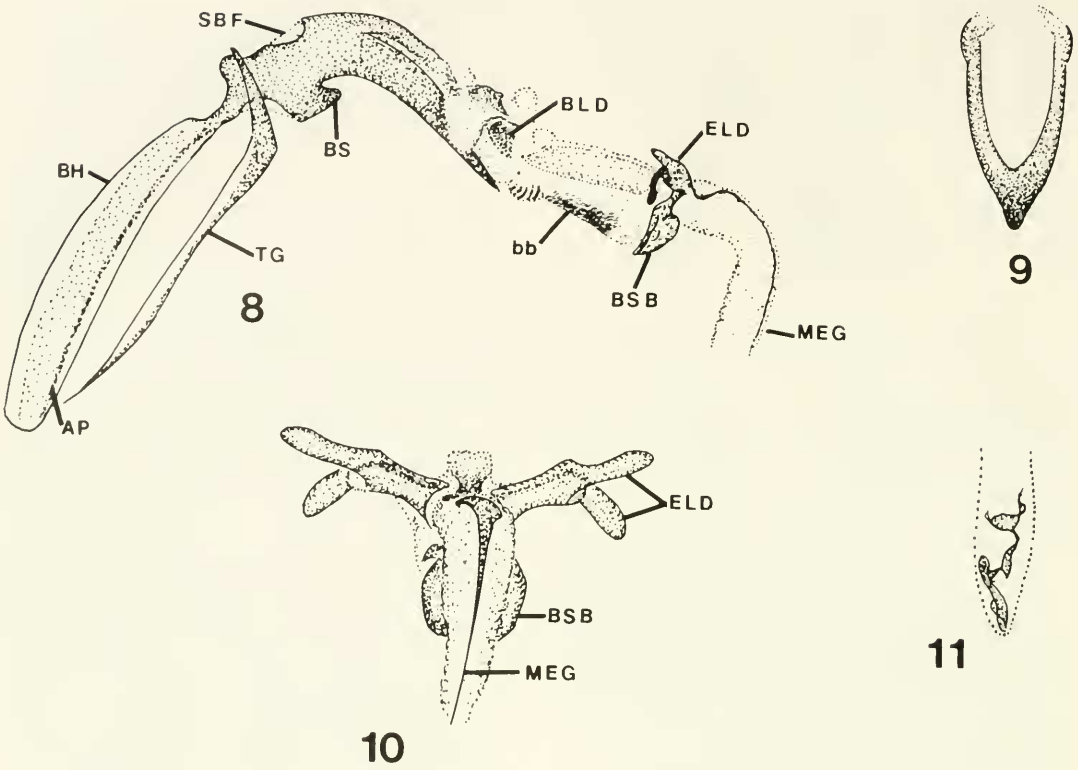
Figs. 1–7. External characters of *Hermesia* and *Hylax*. 1, 2, posterior tibia of male (redrawn from Bechyné 1949). 1, *Hermesia aurata*. 2, *Hylax viani*. 3, fore (left) and middle (right) tibiae and tarsi of *Hermesia aurata*. 4, 5, prothorax of *Hermesia aurata*. 4, pronotum. 5, lateral view of prothorax. 6, 7, prothorax of *Hylax* sp. 6, pronotum. 7, lateral view of prothorax. CX1 = insertion of forecoxa.



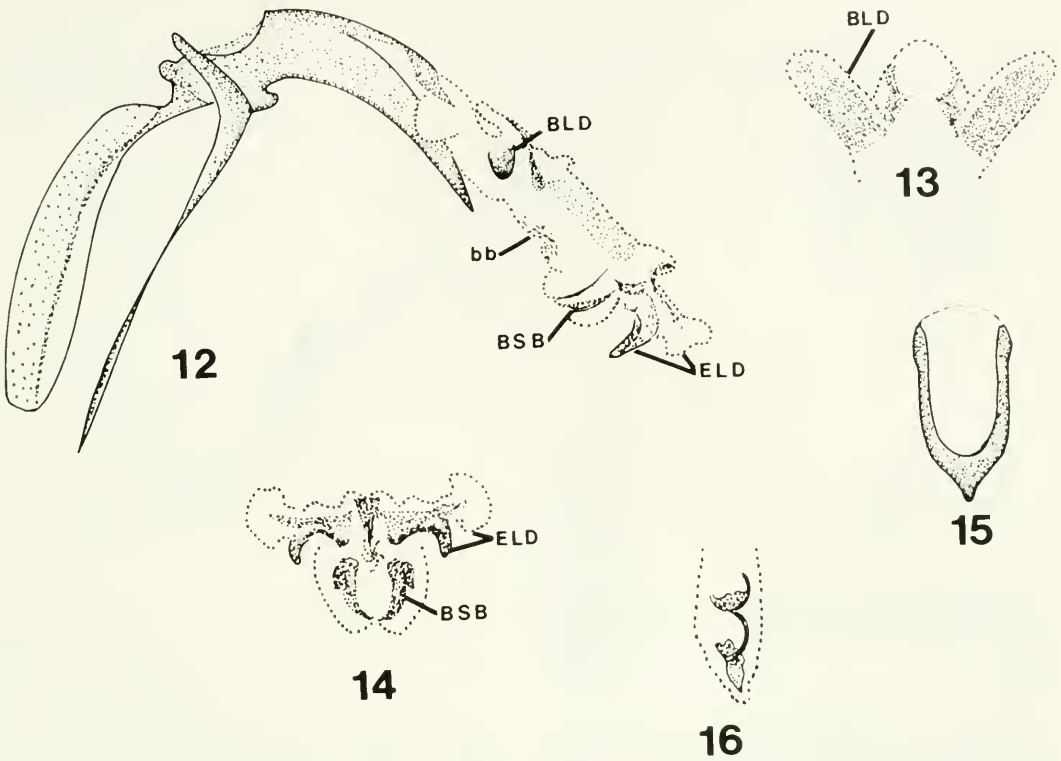
Figs. 8–11. *Hermesia aurata*, male genitalia. 8, lateral view of median lobe with partially everted endophallus. 9, apex of median lobe. 10, apical view of ELD's. 11, apical sclerites of endophallus. Abbreviations: AP = apodeme, bb = basal setal field, BH = basal hood, BLD = basal lateral digit, BS = basal spur, BSB = basal supporting block, ELD = endophallic lateral digit, MEG = median ejaculatory guide, SBF = subbasal fenestra.

Body oblong; length 4.8–6.2 mm; head, pronotum, elytra, underside, and legs bright metallic green, gold-green, or cobalt blue.

Head with labrum apically emarginate, with 2 submedian setae and short row of lateral setae along outer apical angle. Frons and clypeus coarsely, sparsely punctate; punctures on clypeus separated by distance equal to the diameter of a puncture, and on frons by distance greater than the diameter of a puncture; surface between punctures smooth or with widely scattered punctulae; antennal calli impunctate; genae with microreticulate area anteriorly between eye and base of mandible; frons with longitudinal impressed median line, deep between antennal calli, becoming obsolete toward vertex. Eyes oval, weakly emarginate at antennal insertion.

Antennae with scape oval, pedicel subglobose, shorter than scape, distinctly shorter than segment 3; scape and pedicel yellowish to reddish brown ventrally, metallic green or cobalt blue dorsally; segments 3–6 reddish brown to piceous, usually paler at extreme apex, remaining segments piceous; all segments filiform, each slightly wider at apex, elongate (L/W seg. 7 = 3.5–4); segments 3–6 with scattered adpressed setae, segments 7–11 densely pubescent, with whorl of long erect setae at apex of each segment from 3–10; segment 11 short, conical.

Mouthparts reddish brown to piceous; maxillary palp with apical segment spindle-shaped. Mandibles short, broad, strongly angulately curved, with outer surface smooth and shiny; apical teeth broad, acute.



Figs. 12–16. *Hermesia inermis,* male genitalia. 12, lateral view of median lobe with partially everted endophallus. 13, frontal view of BLD's. 14, apical view of ELD's. 15, apex of median lobe. 16, apical sclerites of endophallus. Abbreviations as in Figs. 8–11.

Prothorax distinctly wider than long, L/W = 0.48–0.61; disc of pronotum evenly, finely punctate, punctures separated by 1–2 times the diameter of a puncture, surface between punctures smooth, shining, with scattered punctulae. Apical and basal marginal bead narrow; lateral margin evenly rounded, with broad distinct flange, broadest at middle, and with fine transverse striae on dorsal surface of flange (Fig. 4). Anterior and posterior angles distinct, outwardly directed, formed from projections of lateral flange, each angle with single long erect seta in large puncture. Proepisternum with anterior margin straight, surface alutaceous to wrinkled. Proepimeron coarsely punctate, punctures separated by distance greater than the diameter of a puncture, surface smooth, shiny. Prosternum weakly declivous anterior to procoxae (Fig. 5), surface with long erect yellow setae, intercoxal process broad, 1.1–1.6× diameter of procoxa, widened behind procoxae, longer than mesosternum, subequal to metasternum.

Mesosternum broad, subequal in width to prosternum, strongly convex between coxae, width 1.4× width of mesocoxa, surface smooth, slightly wrinkled with sparse short yellow setae.

Metasternum smooth, slightly swollen anterior to metacoxae, with sparse short yellow setae; metepisternum gradually narrowed posteriorly, surface alutaceous.

Legs sparsely covered with short prostrate setae, all surfaces alutaceous. Femora strongly swollen in middle; tibiae gradually widening toward apex, multicarinate, slightly to moderately sulcate between carinae, with setae linearly arranged in sulci and increasing in length toward apex of tib-

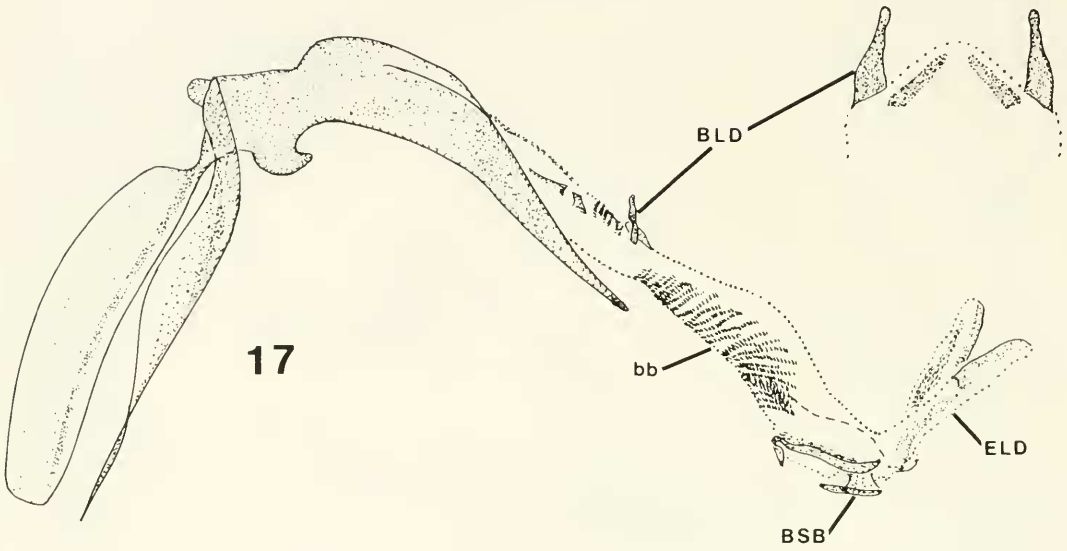


Fig. 17. *Hylax* sp., median lobe with partially everted endophallus (left), frontal view of BLD's (right). Abbreviations as in Figs. 8–11.

iae. Hind tibiae of male with broad low internal carina at middle (Fig. 1), or at apical fourth, or tibiae unmodified. Tarsi densely and uniformly pilose beneath, basal tarsomere of fore- and middle legs expanded (Fig. 3), distinctly longer than wide; second tarsomere broadly triangular, with acute apicolateral angles; third tarsomere longer than second, deeply bilobed; terminal tarsomere distinctly surpassing apex of 3rd tarsomere; claws divergent, appendiculate.

Elytra moderately punctate, punctures arranged in 13–14 irregular rows separated by two or more times the diameter of a puncture; apical third of elytra with punctures in four regular rows which follow sutural and lateral margins; surface between punctures smooth, shining, with sparse punctulae; humeri prominent, rounded; basal calli moderately developed; postbasal depression present, deeper laterally. Sides subparallel, convergent; apices conjointly broadly rounded. Basal margin moderately costate, costa obliterated toward scutellum. Epipleuron narrow, acutely raised, slanted, tapering evenly from base to apex.

Scutellum triangular, base subequal to length; surface smooth, with few punctulae.

Abdomen with all segments subequal in length, with sparse short yellow setae; with long yellow setae in central transverse row on four basal segments; surface between punctures finely alutaceous. Male sternum VI with shallow lateral depressions, sternum VII with flattened smooth median area, coarsely punctate laterally, apical emargination broad and shallow. Female sternum VI weakly crenulate on apical half, sternum VII flat, alutaceous, with strongly crenulate lateral margins, apical emargination narrower than in male, with median denticle (Fig. 24).

Pygidium with longitudinal median groove broad, shallow, extending to apical margin (Fig. 23); lateral margin of groove slightly acutely projecting inward, demarcated by subbasal bisinuate and apical arcuate carinae; surface alutaceous, with scattered coarse setiferous punctures; apical and lateral margins crenulate.

Male genitalia.—Median lobe strongly curved (in lateral view) to sharply bent (Figs.

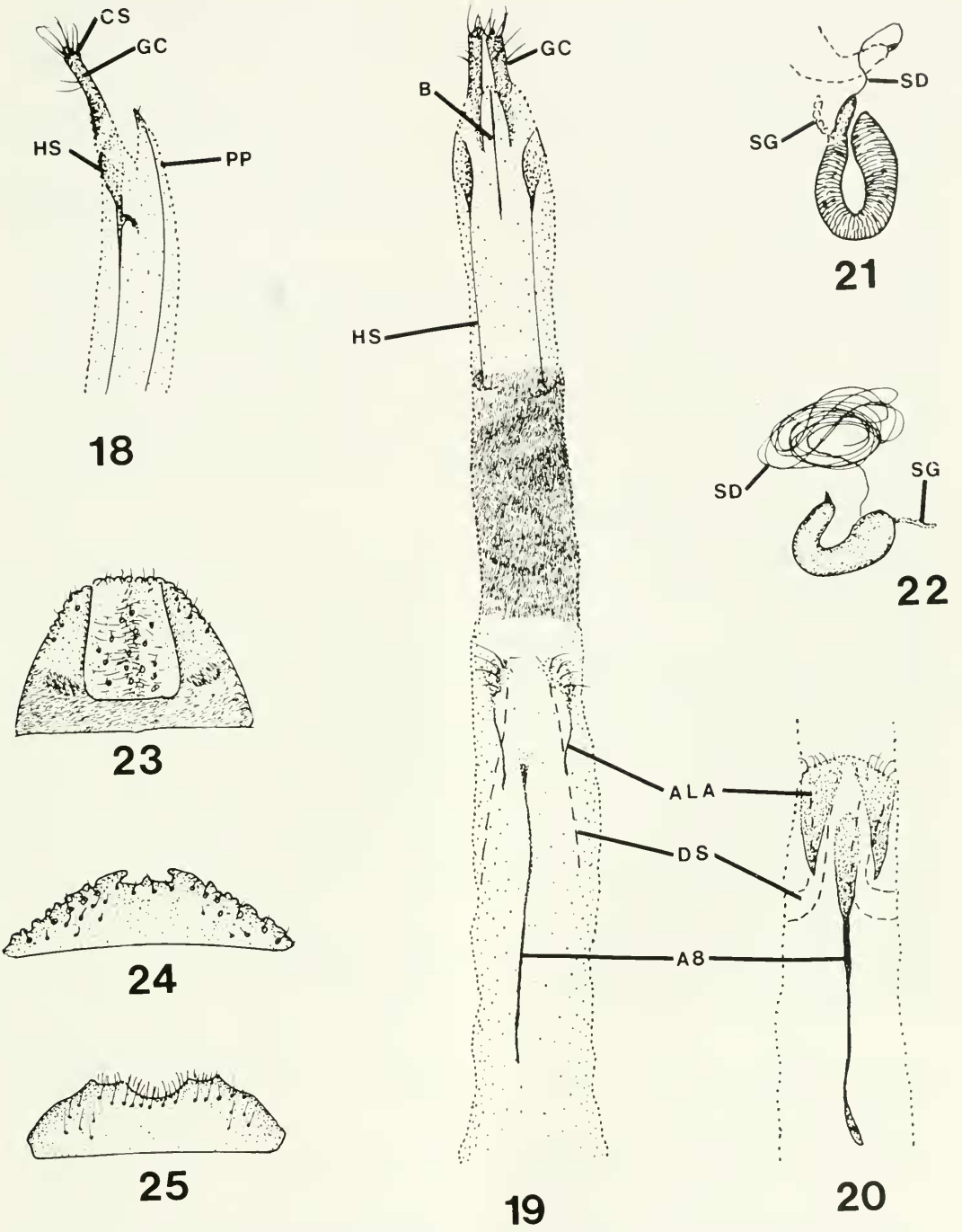


Fig. 18–25. Female characters of *Hermesia aurata* and *Hylax* sp. 18–19, ovipositor of *Hermesia aurata*: 18, apex, lateral view; 19, ventral view. 20, *Hylax* sp., base of ovipositor tube (sternum VIII), ventral view. 21, 22, spermatheca: 21, *Hermesia aurata*; 22, *Hylax* sp. 23, pygidium of *Hermesia aurata*. 24, 25, female sternum VII: 24, *Hermesia aurata*; 25, *Hylax* sp. Abbreviations: ALA = apicolateral arms of sternum VIII, A8 = apodeme of sternum VIII, B = baculum, CS = coxostyli, DS = dorsal sclerites of segment VIII, GC = gonocoxae, HS = hemisternites of segment XI, PP = paraprocts, SD = spermathecal duct, SG = spermathecal gland.

8, 12), apex pointed (Figs. 9, 15); basal hood (BH) long, lightly sclerotized, apodemes (AP) distinct at lateral margins of hood; subbasal fenestra (SBF) present; basal spurs (BS) prominent; tegmen slender. Endophallus elongate, with two pairs of lateral digits, the basal pair (BLD) simple, lobe shaped (Figs. 12, 13), the apical pair (ELD's) bifurcate, articulating with a basal supporting block (BSB); a ventral basal brush (bb) between the two pairs of lateral digits; with thin median ejaculatory guide (MEG) projecting forward when endophallus is everted (Figs. 8, 10); with small, internal, complex scerite at tip of endophallus (Figs. 11, 16); flagellum extremely long.

Female genitalia.—Segments VIII–XI forming elongate ovipositor (Fig. 19). Sternum VIII with long rod-like basal apodeme (A8) and weakly sclerotized apicolateral arms (ALA) with several setae; dorsal sclerites (DS) weak, rod-like. Segment IX covered with minute setae in basal half; hemisternites (HS) with long basal rods, poorly sclerotized apically; paraprocts (PP) separated into pair of slender dorsal rods, apically forming hood-like projection above genital orifice (Fig. 18); baculum (B) distinct, apical, subequal in length to gonocoxae (GC). Gonocoxae narrow, elongate, with long setae in apical half; coxostyli (CS) distinct, with several long apical setae. Spermatheca (Fig. 21) with fine annuli, narrowed at ramus; duct short, straight, transparent, with sclerotized outlet into bursa.

Species included

Hermesia aurata (Olivier)
- *Colaspis aurata* Olivier 1808: 882 (original description)
- *Chalcophana nitidissimus* Erichson 1847: 162 (original description); Bechyné 1953: 165 (catalogue)
- *Hylax auratus*; Bechyné 1953: 165 (catalogue)

Hermesia cyanea Bowditch 1921: 193 (original description)

Hermesia inermis Bowditch 1921: 194 (original description)
- *Parachalcoplacis inermis*; Bechyné 1953: 170 (catalogue)

Rhabdopterus violaceus Jacoby 1882: 151 (original description), **new synonymy**
- *Hylax auratus violaceus*; Bechyné 1953: 165 (catalogue)

The remaining species listed as *Hermesia* in Blackwelder (1946) were placed by Bechyné (1953) and Bechyné and Bechyné (1961) in the following genera. I can make no judgements at this time as to the correctness of these generic placements; I can only confirm that they do not belong in *Hermesia* as defined herein.

Corysthea Baly: 1865: 336
- *gregalis* (Weise) 1921: 49
- *rufa* (Weise) 1921: 49

Hermesilla Bechyné: 1954: 216
- *fulgidicollis* (Lefèvre) 1877: clxxix
- *f. lampros* (Jacoby) 1900a: 352
- *janthina* (Lefèvre) 1885: 39
- *similis* (Bowditch) 1921: 193

Allocolaspis Bechyné: 1950b: 81
- *brunnea* (Jacoby) 1900b: 489
- *confusa* (Bowditch) 1921: 194
- *jacobyi* (Bowditch) 1921: 193

Lyraletes Bechyné: 1952: 15
- *purpurea* (Lefèvre) 1877: clxxix
- *varicolor* (Jacoby) 1904: 514

Ledesmodina Bechyné: 1951: 263
- *erosula aenea* (Jacoby) 1900a: 351

Key to Male *Hermesia*

(Female *Hermesia* cannot be distinguished at present except by association with males.)

1. Inner margin of hind tibia straight, lacking apical emarginate area ..... *H. inermis*
   Inner margin of hind tibia expanded, with apical emarginate area lined with long setae (Fig. 1) 2
2. Hind tibia expanded at middle, apical emarginate area almost one-half the length of tibia ..... *H. aurata*

Hind tibia expanded in apical third, emarginate area no more than one-fourth the length of tibia ..... *H. cyanea*

Discussion

The single male of *Rhabdopterus violaceus* mentioned by Jacoby and deposited in the Bowditch Collection is a *Hermesia* lacking tibial modifications, hence this form belongs under *H. inermis*. Both *H. aurata* and *H. inermis* are found in bright metallic green and cobalt blue color forms (all specimens of *H. cyanea* I have seen are metallic green). Males of *Hermesia* I have seen from Central America have all been *H. inermis*; this species also extends into Colombia (Bowditch Collection); *H. aurata* and *H. cyanea* are apparently limited to South America.

In the field, the brightly colored *Hermesia* species are likely to be confused only with members of a group of *Colaspis* that also are bright metallic green or cobalt blue (the "*bridarollei*" group of Bechyné). These *Colaspis,* however, have clear yellow to rufotestaceous legs (in *Hermesia* the legs are metallic, always the same color as the elytra) and much more densely and/or coarsely punctate elytra and pronotum. Host plant data for these species are (as usual for the Eumolpinae) scarce but I have collected *H. aurata* from leaves of *Psychotria* (Rubiaceae) in Rondonia, Brazil.

Hermesia, as here delineated, is most similar to *Lyraletes* Bechyné but can be distinguished by the following combination of characters (based on specimens referable to *Lyraletes* in the Bowditch Collection): the lateral flange of the pronotum is distinctly sinuate in *Lyraletes,* evenly rounded in *Hermesia*; and the elytra of *Lyraletes* are widest in their apical third (in *Hermesia* the sides are subparallel).

Aside from differences in the hind tibiae of the males (discussed above), *Hermesia* can be clearly differentiated from *Hylax* on the following characters. In *Hermesia* the prosternum (Fig. 5) is gradually declivous anteriorly and its anterior margin meets the gula well behind the mouthparts. This condition is widespread in the Eumolpinae and can be seen in the familiar North American *Colaspis* and *Brachypnoea* (= *Nodonota,* see Flowers et al. 1994) species. In *Hylax,* on the other hand, the anterior margin of the prosternum is somewhat to distinctly concave for reception of the postgenal area of the head. Viewed in profile (Fig. 7) the prosternum appears to meet the gula almost perpendicularly. When the head is in the resting position, the prosternum rests against the gula close to the base of the mouthparts. This condition is less common in the Eumolpinae but is found in other Neotropical genera such as *Eumolpus* Weber and *Lepronota* Chapuis.

The pronotal lateral marginal bead of *Hylax* is narrow, evenly rounded, lacks striations and is slightly thickened as it passes around the apex of the apical angles (Fig. 6). The anterior apical angles are very large, directed forward and formed from the pronotum itself. This is quite different from the wide striate bead of *Hermesia* (Fig. 4) which ends in a small beveled angle at the anterior apical angle.

The apical abdominal sternite of the female is quite different between the two genera for all specimens examined. In *Hermesia,* the lateral margins are strongly crenulate and the apical notch is narrow, with a median tooth (Fig. 24). In *Hylax,* this sternite is smooth on the margins and the apex has a broad bisinuate emargination (Fig. 25).

There are some differences between the genitalia of *Hermesia* and *Hylax* (based on dissection of a series of *H. aurata* from Peru, *H. inermis* from Panamá and Costa Rica, and specimens of *Hylax* nr. *chalybaeus* Lef. from Costa Rica). In females, segment VIII is more extensively sclerotized in *Hylax,* the basal apodeme has a more marked apical expansion (Fig. 20); the spermatheca has a different shape (Fig. 22), and the sperma-

thecal duct is very long and convoluted. In males, the general morphology of the *Hylax* endophallus is like that of *Hermesia* but shape of both pairs of lateral digits (ELD and BLD) is different in the two genera. In *Hylax* the basal setal brush is much more extensive than in *Hermesia,* the setae are arranged in definite rows and there are rows of setae on the dorsal surface behind the basal digits (Fig. 17). The median lobe apex also differs slightly but this character varies within genera and is not of generic value. It is difficult to say if differences in these structures identified here are phylogenetically useful at the genus level. They do, however, weigh in favor of restoring *Hermesia.*

Acknowledgments

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Literature Cited

Askevold, I. S. 1988. The genus *Neohaemonia* Székessy in North America (Coleoptera: Chrysomelidae: Donaciinae): Systematics, reconstructed phylogeny, and geographic history. Transactions of the American Entomological Society 113: 361–430.

———. 1990. Reconstructioned phylogeny and reclassification of the genera of Donaciinae (Coleoptera: Chrysomelidae). Quaestiones Entomolgicae 26: 601–664.

———. 1991. Classification, reconstructed phylogeny, and geographic history of the New World members of *Plateumaris* Thomson, 1859 (Coleoptera: Chrysomelidae: Donaciinae). Memoirs of the Entomological Society of Canada 157: 1–175.

Askevold, I. S. and R. W. Flowers. 1994. *Glyptoscelоides dentatus,* a genus and species of Eumolpinae new to Chile (Coleoptera: Chrysomelidae). Revista Chilena de Entomología. (In press.)

Baly, J. S. 1865. Descriptions of new genera and species of Phytophaga. Transactions of the Entomological Society of London, series 3 2: 333–357.

Bechyné, J. 1949. List provisoire des Eumolpides de la République Argentine [et observations diverses sur les Eumolpides de l'Amerique du Sud] (Coleoptera, Chrysomeloidea). Acta Zoologica Lilloana 8: 457–535.

———. 1950a. Les générotypes des eumolpides de l'Amérique du Sud et du Centre avec les diagnoses des formes nouvelles. (Coleoptera, Phytophaga, Chrysomeloidea). Mittilungen München Entomologische Gesellshaft 40: 264–292.

———. 1950b. Notes sur les Eumolpides de l'Amérique du Sud, (Col. Phytophaga). Annals and Magazine of Natural History. Series 12 3: 75–85.

———. 1951. Liste provisoire des Eumolpides de Bolivie et observations diverses sur les espèces de l'Amérique du Sud. (Col. Phytophaga). Entomologischen Arbeiten aus dem Museum Georg Frey 2: 227–352.

———. 1952. Duxième note sur les Eumolpides néotropicaux des collections de l'Institut royal des Sciences naturelles de Belgique (1). Institut royal des Sciences naturelles de Belgique. Bulletin 28: 1–20.

———. 1953. Katalog der neotropischen Eumolpiden (Coleoptera Phytophaga Chrysomeloidea). Entomologischen Arbeiten aus dem Museum Georg Frey 4: 26–304.

———. 1954. La liste des eumolpides de Rio Grande do Sul (Bresil) et observations diverses sur les espèces néotropicales. Arquivos do Museu Paranaense 10: 141–230.

———. 1955. Reise des Herrn G. Frey in Südamerika: Eumolpidae (Col. Phytophaga). Entomologischen Arbeiten aus dem Museum Georg Frey 6: 569–657.

Bechyné, J. and B. Springlová de Bechyné. 1961. Insecta amapaensia: Chrysomeloidea (Col. Phytoph.). Studia Entomologica 4: 409–428.

Blackwelder, R. E. 1946. Checklist of the coleopterous insects of Mexico, Central America, the West Indies, and South America. Part 4. United States National Museum Bulletin 185: 551–763.

Bowditch, F. C. 1921. South American Eumolpidae, mostly of the group Colaspini. Entomologist 54: 25–30, 72–76, 169–172, 190–195, 214–216, 234–236, 253–256.

Erichson, W. F. 1847. Conspectus insectorum coleopterorum quae in Republica Peruana observata sunt. Archiv fût Naturgeschichte 13: 67–185.

Flowers, R. W., D. G. Furth, and M. C. Thomas. 1994. Notes on the distribution and biology of some Florida leaf beetles (Coleoptera: Chrysomelidae). The Coleopterists' Bulletin 48: 79–89.

Jacoby, M. 1882. Insecta, Coleoptera, Eumolpidae, Chrysomelidae. 6: 145–224. *In* Godman, F. D. and O. Salvin, eds., 1879–1901. Biologia Centrali-Americana. Dulach & Co., London.

———. 1900a. Descriptions of two new species of *Hermesia* (Chrysomelidae, fam. Eumolpidae). Annali del Museo Civico di Storia Naturale di Genova 40: 351–353.

———. 1900b. Descriptions of new species and a new genus of South American Eumolpidae, with remarks on some of the genera. Transactions of the Entomological Society of London 1900: 453–510.

———. 1904. Descriptions of some new species of phytophagous Coleoptera obtained by Baron E. Nordenskiöld in Bolivia and the Argentine Republic. Arkiv för Zoologi 1: 513–524.

Lefèvre, E. 1877. (La description suivante d'un genre nouveau de coléoptères, appartenant à la famille des eumolpides.) Bulletin de la Société Entomologique de France 1877: clxxviii–clxxix.

———. 1884. (Description d'un nouveau genre de la famille des emolpides.) Bulletin de la Société Entomologique de France 1884: xliv–xlv.

———. 1885. Eumolpidarum hucusque cognitarum catalogus, sectionum conspectu systematico, generum sicut et specierum nonnullarum novarum descriptionibus adjunctis. Mémoires de la Société Royale des Sciences de Liège, serie 2 11: 1–172.

Monrós, F. and J. Bechyné. 1956. Über einige verkannte Chrysomeliden-Namen. Entomologischen Arbeiten aus dem Museum Georg Frey 7: 1118–1137.

Olivier, A. G. 1808. Entomologie, ou histoire naturelle des insectes, avec leurs caractères génériques et spécifiques, leur description, leur synonymie, et leur figure enluminée. Coléoptères 6: 613–1104. Paris.

Weise, J. 1921. Wissenschaftliche Ergebnisse der schwedischen entomologischen Reise des Herrn Dr. A. Roman in Amazonas 1914–1915. 6. Chrysomelidae. Arkiv för Zoologi 14: 1–205.